

## **REMARKS**

The present Amendment amends claims 1, 10, 19 and 21 and leaves claims 2-9, 11-18 and 20 unchanged. Therefore, the present application has pending claims 1-21.

Claims 1-4, 10-13, 19 and 21 stand rejected under 35 USC §103(a) as being unpatentable over Cannon (U.S. Patent No. 6,886,019) in view of Ono (U.S. Patent No. 5,539,885); claims 5-8 and 14-17 stand rejected under 35 USC §103(a) as being unpatentable over Cannon and Ono and further in view of Schneider (U.S. Patent No. 6,944,658 B1); claim 9 stands rejected under 35 USC §103(a) as being unpatentable over Cannon and Ono, in view of Larson (U.S. Patent No. 6,556,904 b1); and claim 20 stands rejected under 35 USC §103(a) as being unpatentable over Cannon and Ono in view of Nakos (U.S. Patent Application Publication No. 2002/0049744 A1). These rejections are traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-21 are not taught or suggested by Cannon, Ono, Schneider, Larson or Nakos whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to the claims in order to more clearly describe features of the present invention. Particularly, amendments were made to the claims to more clearly recite that the present invention is directed to a computer system which implements a file system for managing files, a program for executing a file access process according to a file access request and a file access method.

The computer system according to the present invention includes a first computer that receives access request to files from at least one client computer, a first storage device which is connected to the first computer and stores file management information, a second computer that receives access requests to file data from the first computer, a second storage system that is connected to the second computer and stores file data and a network that connects the at least one client computer, and the first and second computers to each other.

According to the present invention upon receiving file data from the at least one client computer, the first computer assigns first identification information to the file data and stores the file data in the second storage device system through the second computer and the first storage device system stores the first identification information assigned to the file data by the first computer and a file name of a file having the file data designated by the at least one client computer as file management information.

Further, according to the present invention upon receiving, from the at least one client computer, a write request requesting write access to a file which is the target of the write request, the first computer searches an open file table, which registers in corresponding relation file names used by the at least one client computer to designate files, first identification information of files that are open, credential information of users of the at least one client computer who can access the files that are open and information that identifies session information which is generated when a session has been established between the at least one client computer and the first computer, to obtain first identification information of the file, causes a determination

whether an user of the at least one client computer has authority to execute the write request based on said credential information and said session information, and if the user of the at least one client computer has authority to execute the write request, assigns to write data received from the at least one client computer, with the write request, second identification information different from the identification information assigned to the file data of the file stored in the second storage device system.

Still further, according to the present invention the first computer stores the write data, through the second computer, in a storage region within the second storage device system that is different from a storage region that stores the file data already stored in the second storage device system and the first computer correlates the second identification information to a file name of the file and to the first identification information and stores the second identification information in the first storage device system.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention are not taught or suggested by Cannon, Ono, Schneider, Larson or Nakos whether taken individually or in combination with each other as suggested by the Examiner.

Cannon teaches a method for generating file copies with minimum mounting and positioning of storage volumes. Particularly, Cannon teaches a method which receives a copy generation request specifying selection criteria for files to be included in a copy set, identifies matching files meeting the

selection criteria, locates the matching files on their storage volumes and copies the files to the copy set, ignoring the file order in the request but considering the proximity of the matching files to each other on the storage volumes. Cannon also teaches that a storage manager is provided for maintaining reference information about the client files copied within the attached storage volumes. In Cannon a server uses a database to keep inventory information about the original client files and storage volume location information about the copies of the client files stored within the server. As per Cannon, the inventory information includes a client system identifier, a client system directory, a client file name and other attributes of the file including location information.

The main objective of the system taught by Cannon is to provide a method and apparatus for generating a copy set in such a manner so as to minimize mounting and positioning of the storage volumes.

The present invention differs entirely from that taught by Cannon. Particularly, the present invention is directed to provide a method, apparatus and computer program which manages files stored in storage systems such that different identification information is assigned to each file data of a file stored in the storage systems based on request from client computers in a way such that the identification information and file names designated by the client computers are managed in correlation with each other. Further, the present invention provides for the use of a open file table which manages relations between file name, views and the actual files and their locations to allow for the files to be freely manipulated by a client computer with the client computer having to track and manage the files their data (file data), file names

and their locations. Such ease of managing files and file data is not the object of Cannon nor is it taught or suggested.

The above described features of the present invention are implemented in a system such as that illustrated in Fig. 2, wherein a first computer 1200 includes information such as an open file table 1260 which registers in corresponding relations file names used by the client computer to designate files and first identification information of files that are open as illustrated, for example, in Fig. 5 and an attribute table 1240 and location table 1250 which store information regarding the attributes of files including first and second identification information and location information of the files.

According to the present invention as now more clearly recited in the claims the first computer upon receiving from the client computer, a write request, searches the open file table to obtain first identification information of the file which is the target of the write request. These features of the present invention correspond, for example, to step 2600 as illustrated in Fig. 8 of the present application.

Further, according to the present invention the open file table registers in corresponding relation file names used by the at least one client computer to designate files, first identification information of files that are open, credential information of users of the at least one client computer who can access the files that are open and information that identifies session information which is generated when a session has been established between the at least one client computer and the first computer. Such features are clearly not taught or suggested by Cannon.

Still further, according to the present invention the first computer causes a determination whether an user of the at least one client computer has authority to execute the write request based on the credential information and the session information, and if the user of the at least one client computer has authority to execute the write request, assigns to write data received from the at least one client computer, with the write request, second identification information different from the identification information assigned to the file data of the file stored in the second storage device system. These features are not taught or suggested by Cannon.

At no point is there any teaching or suggestion in Cannon of any of the above described features of the present invention as now more clearly recited in the claims.

Thus, Cannon fails to teach or suggest a first computer that receives access request to files from a client computer, a first storage device system connected to the first computer that stores file management information, a second computer that receives access request from the first computer and a second storage device system that is connected to the second computer and stores file data as recited in the claims.

Further, Cannon fails to teach or suggest that upon receiving file data from the client computer, the first computer assigns first identification information to the file data and stores the file data in the second storage device system connected to the second computer and the first storage device system stores the first identification information assigned to the file data by the first computer and a file name of a file having the file data designated by

the client computer as the file management information as recited in the claims.

Still further, Cannon fails to teach or suggest that upon receiving, from the client computer, a write request requesting access to a file which is the target of the write request, the first computer searches an open file table, which registers in corresponding relations file names used by the client computer to designate files, first identification information of files that are open, credential information of users of the at least one client computer who can access the files that are open and information that identifies session information which is generated when a session has been established between the at least one client computer and the first computer, to obtain first identification information of the file as recited in the claims.

Still further yet, Cannon fails to teach or suggest that the first computer causes a determination whether an user of the at least one client computer has authority to execute the write request based on said credential information and said session information, and if the user of the at least one client computer has authority to execute the write request, assigns to write data received from the at least one client computer, with the write request, second identification information different from the identification information assigned to the file data of the file stored in the second storage device system as recited in the claims.

Even further, Cannon fails to teach or suggest that the first computer stores the write data through the second computer, in a storage region within the second storage device system that is different from a storage region that stores the file data already stored in the second storage system and that the

first computer correlates the second identification information to a file name of the file and to the first identification information stores the second identification information in the first storage device system as recited in the claims.

The above described deficiencies of Cannon are not supplied by any of the other references of record. Particularly, the above described deficiencies of Cannon are not supplied by Ono, Schneider, Larson or Nakos. Therefore, combining the teachings of Cannon with one or more of Ono, Schneider, Larson and Nakos still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Ono is being relied upon for an alleged teaching of the open file table. However, the open file tables as taught by Ono are not the same as that recited in the claims nor is the information contained in the open file table taught by Ono used in the same manner as that of the present invention as recited in the claims.

For example as recited in the claims the open file table registers in corresponding relations file names used by the client computer to designate files, first identification information of files that are open, credential information of users of the at least one client computer who can access the files that are open and information that identifies session information which is generated when a session has been established between the at least one client computer and the first computer. Ono teaches open file tables in Figs. 8, 12 and 13. At no point is there any teaching or suggestion in Ono of the credential information of users of the at least one client computer who can access the files that are open and information that identifies session



information which is generated when a session has been established between the at least one client computer and the first compute as now recited in the claims.

Further, there is no teaching or suggestion in Ono of using the information contained in the open file table in the manner as recited in the claims. For example, the claims recite that the first computer causes a determination whether an user of the at least one client computer has authority to execute the write request based on said credential information and said session information, and if the user of the at least one client computer has authority to execute the write request, assigns to write data received from the at least one client computer, with the write request, second identification information different from the identification information assigned to the file data of the file stored in the second storage device system. Such features are clearly not taught or suggested by Ono since at a minimum Ono does not teach or suggest the credential information and the session information as recited in the claims.

Thus Ono does not supply the above noted deficiencies of Cannon as alleged by the Examiner.

Schneider is merely relied upon by the Examiner for an alleged teaching of a storage device which stores view data correlated with time information and view data including a pair of a file name of a file corresponding to file data and identification information of the file stored in the storage device system at a time indicated by the time information correlated with the view data. Larson is merely relied upon by the Examiner for an alleged teaching of different methods to determine if a user's access

authorization to a remote system has expired. Nakos is merely relied upon by the Examiner for an alleged teaching that web database software is a software module that translates web request into data request.

However, as is clear from each of the above, there is no teaching or suggestion in either of Ono, Schneider, Larson or Nakos of the features shown above not to be taught or suggested by Cannon. Particularly, at no point is there any teaching or suggestion in either of Ono, Schneider, Larson or Nakos, of, for example, providing an open file table and the information contained therein as in the present invention as recited in the claims. Further, there is no teaching or suggestion in either of Ono, Schneider, Larson or Nakos that the first computer uses the information of the open file table in as in the present invention as recited in the claims. Still further, there is no teaching or suggestion in either of Ono, Schneider, Larson or Nakos that the first computer, if the user can execute the write request, generates second identification information related to the first identification information for designating the file data in the second storage device system and sets information regarding the relations between the first and second identification information in the first storage device system as in the present invention as recited in the claims.

Thus, Ono, Schneider, Larson and Nakos whether taken individually or in combination with each other or in combination with Cannon fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Therefore, since Ono, Schneider, Larson and Nakos are each deficient of the same features of the present invention as now more clearly recited in the claims the same as Cannon, combining one or more of these

references with Cannon still fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1-4, 10-13, 19 and 21 as being unpatentable over Cannon in view of Ono, the 35 USC §103(a) rejection of claims 5-8 and 14-17 as being unpatentable over Cannon in view of Ono and Schneider, the 35 USC §103(a) rejection of claim 9 as being unpatentable over Cannon in view of Ono and Larson and the 35 USC §103(a) rejection of claim 20 as being unpatentable over Cannon in view of Ono and Nakos are respectfully requested.

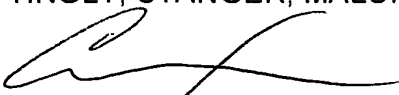
The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-21.

In view of the foregoing amendments and remarks, applicants submit that claims 1-21 are in condition for allowance. Accordingly, early allowance of claims 1-21 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (H-1212).

Respectfully submitted,

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